Animal feeding stuffs - Determination of lysine, methionine and threonine in commercial amino acid products and premixtures (ISO 17180:2013)

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ICS 65.120

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EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

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English Version

Animal feeding stuffs - Determination of lysine, methionine and threonine in commercial amino acid products and premixtures (ISO 17180:2013)

Aliments des animaux - Détermination de la teneur en lysine, méthionine et thréonine dans les acides aminés industriels et les pré-mélanges (ISO 17180:2013)

Futtermittel - Bestimmung von Lysin, Methionin und Threonin in handelsüblichen aminosäurehaltigen Produkten und Vormischungen (ISO 17180:2013)

This European Standard was approved by CEN on 21 March 2013.

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Ref. No. EN ISO 17180:2013: E

Foreword

This document (EN ISO 17180:2013) has been prepared by Technical Committee ISO/TC 34 "Food products" in collaboration with Technical Committee CEN/TC 327 “Animal feeding stuffs - Methods of sampling and analysis” the secretariat of which is held by NEN.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by October 2013, and conflicting national standards shall be withdrawn at the latest by October 2013.

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1 Scope

This International Standard specifies a method for the quantitative determination of free (non-protein-bound) lysine, methionine, and threonine in commercial products and premixtures containing more than about 10 % mass fraction of the respective amino acid. It does not distinguish between D- and L-forms.

NOTE For the purposes of this International Standard, the term "amino acids" used in Clause 2 onwards refers to lysine, methionine, and threonine.

2 Principle

The samples are treated in dilute hydrochloric acid and then diluted with sodium citrate buffer. Norleucine internal standard is added and the amino acids are separated by an amino acid analyser or high performance liquid chromatography (HPLC), using a cation exchange resin and sodium citrate buffer eluent solutions. The amino acids are measured colourimetrically following post-column reaction with ninhydrin reagent or by fluorescence detection after post-column reaction with *ortho*-phthaldialdehyde (OPA).

3 Reagents and materials

Use only reagents of recognized analytical grade, unless otherwise specified.

3.1 Water, double distilled water or equivalent purity (conductivity <10 µS/cm).

3.2 Standard substances.

3.2.1 Lysine·HCl crystals, purity superior to 99 % mass fraction dried under vacuum in a desiccator for 2 days over P_2O_5 prior to use.

3.2.2 Threonine crystals, purity superior to 99 % mass fraction dried under vacuum in a desiccator for 2 days over P_2O_5 prior to use.

3.2.3 Methionine crystals, purity superior to 99 % mass fraction dried under vacuum in a desiccator for 2 days over P_2O_5 prior to use.

3.3 Norleucine crystals, for use as internal standard, purity superior to 99 % dried under vacuum in a desiccator for 2 days over P_2O_5 prior to use.

3.4 Sodium hydroxide solution, c(NaOH) = 7,5 mol/l, for pH adjustment of sodium citrate buffer.

Carefully dissolve 300 g sodium hydroxide in water (3.1) and make up to 1 l.

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